AMENDMENTS TO THE CLAIMS

What Is Claimed Is:

1-41. Cancelled

42. (Currently Amended) A computer-based method for identifying a situation representing risk to a brokerage or its investors, comprising:

receiving, ~~on a periodic basis,~~ data ~~from at least one source, wherein the received data comprises~~ representative of :

a plurality of transactions relating to securities trading, and

a plurality of entities involved in securities trading,

wherein the plurality of transactions and the plurality of entities are not predetermined to be related;

~~accessing a scenario library to identify a detection algorithm for~~ identifying a behavior of interest <u>comprising one or more sequence detection requirements that is</u> indicative of a risk to a brokerage or its investors;

~~applying the detection algorithm to identify common elements between one or more of the plurality of the transactions and one or more of the plurality of the entities in the received data to determine whether the common elements are collectively indicative of the behavior of interest;~~

<u>determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more of the sequence detection requirements;</u>

~~determining, by a computing device, whether one or more relationships exist among the transactions and the entities that exhibit the common element; and~~

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in response to one or more ~~relationships existing among the transactions and the entities that exhibit the common element~~ groups of the transactions and entities collectively satisfying at least one of the one or more sequence detection requirements, generating an alert informing a user of the ~~related transactions and entities that exhibit the common elements~~ one or more groups of the transactions and entities.

43.   (Currently Amended) The method of claim 42, wherein ~~the~~ determining whether one or more ~~relationships exist~~ groups of the transactions and entities collectively satisfy at least one of the one or more sequence detection requirements comprises performing one or more of the following on the plurality of transactions and the plurality of entities:

sequence matching to identify sequences in one or more transactions and to relate the identified sequences to one or more of the entities in the received data;

link analysis to establish connections between one or more transactions and entities in the received data;

rule-based analysis to identify at least one of the transactions and entities based on rules specifying parameters and thresholds;

outlier detection analysis to identify at least one of the transactions and entities outside of a defined statistical range;

decision tree analysis; and

detection processing using neural networks.

44.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities

brokerage;

the behavior of interest comprises holding concentrated positions in a single security; and

the received data comprises market value of a concentrated position and total cash and

security value.

45.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities

brokerage;

the behavior of interest comprises holding a concentrated position in low-priced

securities; and

the received data comprises low-priced equities balance and total cash and security value.

46.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities

brokerage;

the behavior of interest comprises abusing auto-execution systems; and

the received data comprises information associated with a plurality of orders.

47.   (Withdrawn)   The method of claim 46, further comprising generating an alert if one or

more of the following conditions are met:

each order is on a same side of a market;

a total time span between orders is less than a threshold;

a quantity of each order is less than an auto-execution threshold;

a total quantity of orders exceeds the auto-execution threshold;

a plurality of the orders originate from a same account;

a plurality of the orders originate from a plurality of accounts associated with a same household; and

the orders are entered during regular trading hours.

48.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities brokerage;

the behavior of interest comprises marking the close; and

the received data comprises order time, holdings by others in a household and margin maintenance percentage.

49.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities brokerage;

the behavior of interest comprises making improper short sales; and

the received data comprises securities sold by an account holder, securities held long by an account holder and securities purchased by an account holder.

50.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities

brokerage;

the behavior of interest comprises making cross-trades away from the market; and

the received data comprises information associated with a plurality of executions.

51.   (Withdrawn)   The method of claim 50, further comprising generating an alert if a

plurality of executions:

 occur during extended trading hours;

involve a same security;

have a same execution price;

have a same execution date and time;

are on opposite sides of a market.

52.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities

brokerage;

the behavior of interest comprises encouraging orders by marking them as unsolicited;

and

the received data comprises a number of unsolicited orders and a number of solicited

orders.

53.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities brokerage;

the behavior of interest comprises encouraging short-term holding; and

the received data comprises buy orders, sell orders and indication of solicitation.

54.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more securities representatives;

the behavior of interest comprises soliciting orders but marking them as unsolicited; and

the received data comprises solicitation attempts and unsolicited orders.

55.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more securities representatives;

the behavior of interest comprises shadowing a customer's account; and

the received data comprises time between trades in a security.

56.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more brokerage order-takers or employees;

the behavior of interest comprises front-running; and

the received data comprises employee account activity and employee-linked account activity.

57.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more brokerage employees;

the behavior of interest comprises trading on insider information; and

the received data comprises closing prices and trades in an account associated with an

employee.

58.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more brokerage employees;

the behavior of interest comprises making large deposits; and

the received data comprises employee deposit amounts and employee account net worth.

59.   (Previously Presented)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more customers of a securities

brokerage and securities representatives;

the behavior of interest comprises rapid switching of one mutual fund for another mutual

fund; and

the received data comprises fund purchase date, mutual fund sale date and solicitation

records.

60.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve one or more investment advisors;

the behavior of interest comprises disproportionate allocation of IPO shares; and

the received data comprises IPO initial trading price, IPO closing price and subaccount IPO allocation.

61.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve an investment advisors;

the behavior of interest comprises unfair allocation of block trades to subaccounts of the investment advisor; and

the received data comprises block trade purchase price, block trade allocation and security price at time of allocation.

62.   (Withdrawn)   The method of claim 42, wherein

one or more of the plurality of transactions involve an investment advisor;

the behavior of interest comprises maintenance of concentrated positions in a subaccount of the investment advisor; and

the received data comprises a value of individual equities within the subaccount, a value of the subaccount and a total number of subaccounts managed by the advisor.

63.   (Currently Amended) The method of claim 42, further comprising:

~~prioritizing the one or more relationships, wherein the prioritizing is based on user defined logic and values~~

<u>assigning a priority to each group of the transactions and entities that collectively satisfy at least one of the one or more sequence detection requirements</u>; and

generating one or more alerts based on one or more of the ~~prioritized relationships~~ assigned priorities.

64.   (Currently Amended) The method of claim 42, wherein

~~determining whether one or more relationships exist~~ determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more sequence detection requirements comprises prioritizing the ~~determined relationships~~ groups of transactions and entities that collectively satisfy at least one of the one or more sequence detection requirements; and

generating an alert comprises ~~generation~~ generating an alert only if a ~~relationship~~ group having a predetermined priority is identified.

65.   (Currently Amended) The method of claim 42, further comprising:

identifying any accounts associated with the ~~determined~~ transactions and entities that meet a set of user-defined criteria; and

generating an alert informing the user of the identified accounts.

66.   (Currently Amended) The method of claim 42, further comprising:

identifying one or more accounts that meet a set of user-defined criteria for a current month but that did not meet the set of user-defined criteria for a previous month, wherein the accounts are associated with the ~~determined~~ transactions and entities;

generating an alert comprising the identified accounts. .

67.   (Currently Amended) The method of claim 42, further comprising:

identifying a household, having a plurality of associated accounts,

wherein the household meets a set of user-defined criteria,

wherein the household is associated with one or more of the ~~determined~~ transactions and

entities;

wherein none of the associated accounts individually meet the set of user-defined criteria;

and

generating an alert comprising the identified household.

68.   (Currently Amended) The method of claim 42, further comprising:

identifying a first set of households, wherein each household is associated with one or

more accounts, wherein each household meets a set of user-defined criteria, wherein none of the

accounts associated with the household individually meet the set of user-defined criteria, wherein

each household in the first set is associated with one or more of the ~~determined~~ transactions and

entities; and

identifying from the first set of households, a second set of households comprising

households that did not meet the set of user-defined criteria in a previous month.

69.   (Currently Amended) The method of claim 42, wherein generating an alert

comprises:

providing one or more alert visualizations associated with the transactions and the entities

that ~~exhibit the common elements~~ <u>collectively satisfy at least one of the one or more sequence</u>

<u>detection requirements</u> to a user.

70. (Currently Amended) The method of claim 42, further comprising:

assigning a score to the ~~determined relationships~~ one or more groups of the transactions

and entities that collectively satisfy at least one of the one or more sequence detection

requirements;

determining an alert value associated with the alert based on the assigned score; and

in response to the alert value being below a threshold value, automatically closing the

alert.

71. (Currently Amended) A computer program embodied on a computer readable medium

for identifying a situation representing risk to a brokerage or its investors, wherein the program

comprises one or more sequences of instructions that cause one or more processors to perform

the steps of:

receiving data ~~from at least one source, wherein the received data comprises~~

representative of:

a plurality of transactions relating to securities trading, and

a plurality of entities involved in securities trading,

wherein the plurality of transactions and the plurality of entities are not

predetermined to be related;

~~accessing a scenario library to identify a detection algorithm for~~ identifying a behavior of

interest comprising one or more sequence detection requirements that is indicative of a risk to a

brokerage or its investors by identifying rapid switching of a first mutual fund for a second

mutual fund, wherein one or more of the plurality of transactions is a solicited transaction

involving one or more customers of a securities brokerage and one or more securities representatives, wherein the solicited transaction is solicited by the securities representative, wherein proceeds associated with the switching are at least a percentage of a value of the first mutual fund;

~~applying the detection algorithm to identify common elements between a plurality of the transactions and a plurality of the entities in the received data to determine whether the common elements are collectively indicative of the behavior of interest;~~

determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more of the sequence detection requirements;

~~determining whether one or more relationships exist among the transactions and the entities that exhibit the common element;~~ and

in response to one or more ~~relationships existing among the transactions and the entities that exhibit the common element~~ groups of the transactions and entities collectively satisfying at least one of the one or more sequence detection requirements, generating an alert informing a user of the ~~related transactions and entities that exhibit the common elements~~ one or more groups of the transactions and entities.

72.   (Previously Presented)   The computer program of claim 71, wherein the instructions further cause the one or more processors to perform one or more of the following on the plurality of transactions and the plurality of entities:

sequence matching to identify sequences in one or more transactions and to relate the identified sequences to one or more of the entities in the received data;

link analysis to establish connections between one or more transactions and entities in the received data;

rule-based analysis to identify at least one of the transactions and entities based on rules specifying parameters and thresholds;

outlier detection analysis to identify at least one of the transactions and entities outside of a defined statistical range;

decision tree analysis; and

detection processing using neural networks.

73.   (Currently Amended) The method of claim 42, wherein ~~applying the detection algorithm to identify common elements~~ determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more of the sequence detection requirements comprises determining whether the ~~common elements~~ one or more groups of the transactions and entities are collectively indicative of a behavior that conflicts with one or more Securities Exchange Commission regulations.

74.   (Currently Amended) The method of claim 42, wherein ~~applying the detection algorithm to identify common elements~~ determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more of the sequence detection requirements comprises determining whether the ~~common elements~~ one or more groups of the transactions and entities are collectively indicative of a behavior that conflicts with one or more National Association of Securities Dealers regulations.

75.   (Currently Amended) The method of claim 42, ~~applying the detection algorithm to identify common elements~~ determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more of the sequence detection requirements determining whether the ~~common elements~~ one or more groups of the transactions and entities are collectively indicative of an illegal financial activity.

76.   (Currently Amended) The method of claim 42, wherein ~~applying the detection algorithm to identify common elements~~ determining whether one or more groups of the transactions and entities collectively satisfy at least one of the one or more of the sequence detection requirements comprises determining whether the ~~common elements~~ one or more groups of the transactions and entities are collectively indicative of a fraudulent financial activity.

77.   (Currently Amended) The method of claim 42, wherein: ~~accessing a scenario library to identify a detection algorithm for~~ identifying a behavior of interest ~~indicative of a risk to a brokerage or its investors~~ comprises identifying rapid switching of a first mutual fund for a second mutual fund, wherein one or more of the plurality of transactions is a solicited transaction involving one or more customers of a securities brokerage and one or more securities representatives, wherein the solicited transaction is solicited by the securities representative, wherein proceeds associated with the switching are at least a percentage of a value of the first mutual fund.

78.   (Previously Presented)   The method of claim 42, wherein:

the behavior of interest comprises:

selling, by a customer of a securities brokerage, a first mutual fund within six

months of purchasing the first mutual fund, and

using proceeds from the selling to buy a second mutual fund; and

one or more of the following is solicited by a securities representative:

sale of the first mutual fund, and

purchase of the second mutual fund.

79.   (Previously Presented) The method of claim 42, wherein generating an alert comprises

generating an alert in response to the following:

selling, by a customer of a securities brokerage, a first mutual fund wherein proceeds

from selling are used to purchase a second mutual fund, wherein one or more of the selling and

the purchase are solicited by a securities representative;

proceeds from selling the first mutual fund are at least $10,000;

a purchase price of the second mutual fund is at least $10,000; and

the proceeds from selling the first mutual fund are at least a percentage of a value of the

first mutual fund.